

## ABSTRACT OF THE DISCLOSURE

Methods and apparatus for performing NAT are disclosed. Specifically, NAT is performed at a service provider network device associated with an interface of a service provider network. When a packet is sent from a VPN to a node outside the service provider network (e.g., to access a shared service), the packet includes a VPN identifier (or VRF identifier). In accordance with various embodiments, each packet includes an MPLS tag that includes the VPN identifier. The VPN identifier is stored in a translation table entry. The storing of the VPN identifier will enable a reply packet from the shared service network to the customer VPN to be routed using a routing table identified by the VPN identifier.